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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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EXAMINER

MARTIN, ANGELA J

ART UNIT PAPER NUMBER

1745

DATE MAILED: 11/30/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/017,462

Applicant(s)

PEARSON, MARTIN T.

Examiner

Angela J. Martin

Art Unit

1745

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 14 September 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-51 is/are pending in the application.
- 4a) Of the above claim(s) 1-15 and 35-51 is/are withdrawn from consideration.
- 5) ☒ Claim(s) 20-34 is/are allowed.
- 6) ☒ Claim(s) 16 is/are rejected.
- 7) ☒ Claim(s) 17-19 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date 3-11/02;8/03;4/04.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

Election/Restrictions

1. Claims 1-15, 35-51 are withdrawn from further consideration pursuant to 37 CFR 1.142(b), as being drawn to a nonelected fuel cell system and method of operating a fuel cell system, there being no allowable generic or linking claim. Applicant timely traversed the restriction (election) requirement in the reply filed on September 14, 2004.
2. Applicant's election with traverse of Group II, claims 16-34 in the reply filed on September 14, 2004 is acknowledged. The traversal is on the ground(s) that "the claims are so related as to present no serious burden to the examiner". This is not found persuasive because Group I is directed to a fuel cell system, Group II is directed to a control circuit, and Group III is directed to a method of operation. These different groups have a different classification and because these inventions are distinct for the reasons given above and the search required for Group II is not required for Group I and III, restriction for examination purposes as indicated is proper.

The requirement is still deemed proper and is therefore made FINAL.

Claim Rejections - 35 USC § 102

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

4. Claims 16 is rejected under 35 U.S.C. 102(b) as being anticipated by Rey, U.S. Pat. No. 3,823,358.

Rejection of claim 16 drawn to a control circuit.

Rey teaches a control circuit for a fuel cell system having a fuel cell stack and a battery (abstract), the circuit comprising a series pass element electrically coupleable between a portion of the fuel cell stack and a portion of the battery (col. 2, lines 44-58), and a regulating circuit for regulating current through the series pass element in response to a greater of a battery error (col. 1, lines 63-67 and col. 2, lines 1-19).

Thus, the claim is anticipated.

Allowable Subject Matter

5. Claims 17-19 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

6. The following is a statement of reasons for the indication of allowable subject matter:

The Applicant claims a control circuit for a fuel cell system as described in claim 16, wherein the regulating circuit comprises the described claim limitations of claims 17, 18, and 19.

The prior art of record does not teach the claim limitations of claims 17, 18, and 19.

7. Claims 20-34 are allowed.

8. The following is an examiner's statement of reasons for allowance:

Applicant claims a control circuit for a fuel cell system comprising a series pass element, a blocking diode, and a regulating circuit coupled to the series pass element to regulate a current through the element in proportion to at least a greater of a difference between a battery charging current and a battery charging current limit, a difference between a battery voltage and a battery voltage limit, a difference between a stack current and a stack current limit.

The Applicant claims a control circuit for a fuel cell system comprising a battery charging current sensor, a battery charging current error integrator, a battery sensor, a battery voltage error integrator, a stack current sensor, a stack current error integrator, an OR circuit, and a series pass element.

Applicant claims a control circuit for a fuel cell system comprising means for determining a greater of a difference between a battery charging current and its limit, a difference between a battery voltage and its limit, between a stack current and its limit, and series pass regulating means for regulating a flow of stack current through a blocking diode in proportion to the determined greater difference.

The Applicant claims a control circuit for a fuel cell system comprising means for determining a difference between a battery charging current and a battery charging current limit, means for determining a difference between a battery voltage and a battery voltage limit, means for determining a difference between a stack current and a stack current limit, series pass regulating means for regulating a flow of stack current through a blocking diode in response to the greater of the determined differences.

The prior art of record does not disclose or render obvious the above claim limitations.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Angela J. Martin whose telephone number is 571-272-1288. The examiner can normally be reached on Monday-Friday from 9:00 am to 5:00 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Patrick Ryan can be reached on 571-272-1292. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

